Document title: **State Environmental Policy Act Environmental Checklist for the River Protection Project - Waste Treatment Plant**

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History Sheet

Rev	Date	Reason for revision	Revised by
A	23 March 2000	Draft	J Sipkowski
0	31 March 2000	Approved	J Sipkowski
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A	13 June 2001	Draft for Review; Replaces RPT-W375-EN00014, Rev. 1	P Berlin
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1	24 October 2001	Changes made as a result of DOE review	P Berlin
2	28 November 2001	Incorporates DOE Signature	P Berlin

Contents

Acronyms and Abbreviations

BNI	Bechtel National, Inc.
CFR	Code of Federal Regulations
DOE	US Department of Energy
DOE-RL	US Department of Energy, Richland Operations Office
EIS	Environmental Impact Statement
PM	particulate matter
TWRS	Tank Waste Remediation System
WAC	Washington Administrative Code
WTP	River Protection Project-Waste Treatment Plant

A Background

1. **Name of proposed project, if applicable:**

   The River Protection Project Waste Treatment Plant (WTP)

2. **Name of applicants:**

   US Department of Energy, Office of River Protection
   US Department of Energy, Richland Operations Office

3. **Address and phone number of applicants and contact persons:**

   US Department of Energy
   Office of River Protection
   P.O. Box 550
   Richland, Washington 99352

   Mr. James Rasmussen, Director
   Environmental Management Division
   (509) 376-2247

4. **Date checklist prepared:**

   September 2001

5. **Agency requesting the checklist:**

   Washington State Department of Ecology
   Nuclear Waste Program
   1315 West 4th Avenue
   Kennewick, Washington 99336

6. **Proposed timing or schedule (including phasing, if applicable):**

   Field construction activities are scheduled to begin in September of 2001. Construction of facility structures is scheduled to begin in November of 2002.

7. **Do you have any plans for future additions, expansion, or further activity related to or connected with this proposal? If yes, explain.**

   The initial phase is to construct the WTP to treat approximately 10% of the volume of Hanford tank waste through the year 2018. A decision to modify, expand, or continue operation of the treatment and storage capacities in the facility could be made in the future with regulatory approval.

8. **List any environmental information you know about that has been prepared, or will be prepared, directly related to this proposal.**

   The WTP concept was included in the *Tank Waste Remediation System, Final Environmental Impact Statement* (TWRS EIS; DOE 1996). The *Tank Waste Remediation System (TWRS) Record of Decision* (DOE 1997) was jointly issued by DOE and the Washington State

Department of Ecology to fulfill the environmental review requirements of the *National Environmental Policy Act of 1969* (NEPA 1969) and the *State Environmental Policy Act of 1971* (RCW 43.21). In addition, DOE approved the *Supplement Analysis for Tank Waste Remediation System* (Supplement Analysis 2; DOE 1998) and the *Mitigation Action Plan for the US Department of Energy, Hanford Site, Tank Waste Remediation System-Privatization, Phase I Facility Construction* (TWRS Mitigation Action Plan; DOE-RL 1998). Another supplement analysis is currently being written.

A *River Protection Project – Waste Treatment Plant Dangerous Waste Permit Application* (WTP Dangerous Waste Permit Application; BNFL 2000) was submitted by the Department of Energy to the Washington Department of Ecology on April 28, 2000. A revised Dangerous Waste Permit Application will be submitted in December 2001.

9. **Do you know whether applications are pending for government approvals of other proposals directly affecting the property covered by your proposal? If yes, explain.**

No known applications are pending for government approvals of other proposals directly affecting the proposed property.

10. **List any government approvals or permits that will be needed for your proposal, if known.**

The Washington State Department of Ecology is the lead agency authorized to approve the WTP Dangerous Waste Permit Application Part A, Form 3, and Part B for the WTP, pursuant to the requirements of Washington Administrative Code (WAC) 173-303-806, and the US Environmental Protection Agency Code of Federal Regulations, 40 CFR 270.

Emissions from the WTP will be permitted under:

- The State of Washington Department of Ecology Air Permit Regulations, WAC 173-400, 173-401, 173-460, and 173-480
- The State of Washington Department of Health radioactive air emissions licensing, WAC 246-247
- 40 CFR 52.21 and 40 CFR 61

Industrial waste water discharges, including the water generated from construction testing and storm water, will be permitted under the *Water Quality Standards for Ground Waters of the State of Washington*, WAC 173-200 and the *State Waste Discharge Permit Program*, WAC 173-216, as appropriate. Discharges from the sanitary sewer system will be permitted according to *On-Site Sewage Systems*, WAC 246-272.

The DOE Office of River Protection is responsible for overseeing nuclear and process safety for the WTP. To implement that responsibility, the Office of River Protection will review and approve the authorization basis prepared by Bechtel National Inc. (BNI), as required, for the design, construction, and operation of the WTP.

11. **Give a brief, complete description of your proposal, including the proposed uses and the size of the project and site. There are several questions later in this checklist that ask you to describe certain aspects of your proposal. You do not need to repeat those answers on this page.**

The WTP is proposed as a dedicated waste treatment and storage facility that will receive a mixed waste stream from Hanford's double-shell and single-shell tank farm systems. The waste will contain organic, inorganic, and radionuclide constituents. The facility will provide capabilities for vitrification treatment of low-activity waste (LAW) feed and high-level waste (HLW) feed. These feeds are subsets of high-level waste, which is defined in 10 CFR 72.3.

The feed treated in the LAW feed treatment process will primarily be the liquid supernatant portion of waste, with minor volumes of entrained solids, which at present is stored in the tank systems at the Hanford Site. The HLW feed treatment process will allow for the treatment of waste with a higher solids content.

12. **Location of the proposal. Give sufficient information for a person to understand the precise location of your proposed project, including a street address, if any, and section, township, and range, if known. If a proposal would occur over a range of area, provide the range or boundaries of the site(s). Provide a legal description, site plan, vicinity map, and topographic map, if reasonably available. While you should submit any plans required by the agency, you are not required to duplicate maps or detailed plans submitted with any permit applications related to this checklist.**

The WTP will be located in the 200 East Area of the Hanford Site, Benton County, Washington, on the Gable Butte, Washington, 7.5 minute quadrangle topographic map in section 3, T12N, R26E of the Willamette Base and Meridian. This location is in agreement with the comprehensive land use plan (DOE 1999a).

The WTP Dangerous Waste Permit Application (BNFL 2000) provides a small-scale map depicting the Hanford Site and the location of the WTP in Chapter 2, and a topographic map in Appendix 2A.

B Environmental Elements

1. Earth

a. General description of the site (circle one): Flat, rolling, hilly, steep slopes, mountainous, other _____.

The site is flat.

b. What is the steepest slope on the site (approximate percent slope)?

The approximate slope of the land is less than two percent.

c. What general types of soils are found on the site (for example, clay, sandy gravel, peat, and muck)? If you know the classification of agricultural soils, specify them and note any prime farmland.

Soil types for the 200 Areas of the Hanford Site are described in Volume I of the TWRS EIS, section 4.1.4 (DOE 1996). In general, soil types in the 200 Areas and around the WTP consist mainly of eolian and fluvial sands, and gravel. More detailed information concerning specific soil classifications can be found in *Hanford Site National Environmental Policy Act (NEPA) Characterization* (PNNL 2000). Farming is not permitted on the Hanford Site. The general area surrounding the Hanford Site 200 Areas was not farmed prior to construction of the Hanford facilities.

d. Are there surface indications or history of unstable soils in the immediate vicinity? If so, describe.

No. The proposed WTP site is not located in an area of slope or soil instability, or in an area affected by unstable slope or soil conditions.

e. Describe the purpose, type, and approximate quantities of any filling or grading proposed. Indicate source of fill.

Clearing and grading of land is the first activity in the sequence of construction and facility startup.

Approximately 450,000 cubic yards of earthworks is planned. Clearing and grading will be followed by excavation, compaction, and then facility construction.

An area below the grade slab will be fine-graded. Aggregate and fill for fine grading will be brought from quarry sites and borrow pits on or near the Hanford Site. Contaminated materials will not be used for fill.

f. **Could erosion occur as a result of clearing, construction, or use? If so, generally describe.**

Yes. During construction following initial disturbances and before revegetation, wind and storm water runoff erosion is possible. These conditions should be present only for a relatively short period of time. Land used only for construction purposes will either remain covered with aggregate or be restored to original condition and revegetated after construction.

Due to the possibility that the soil will be disturbed again for future work, construction laydown areas and other portions of the site will be reseeded using the appropriate standard Washington State Department of Transportation seed mix for revegetation in this climate, consistent with the TWRS Mitigation Action Plan (DOE-RL 1998). Infrastructure construction, such as transmission corridors, will be reseeded using a native grass and sagebrush seed mix.

A sizable portion of the WTP site, and also of nearby land, has previously been disturbed. Disturbance in the surrounding areas includes the construction of roads, processing facilities, pipelines, and other facilities and infrastructure associated with the production of plutonium and waste management. The impact from the grading activities on surface or near surface geologic features will be confined to small, localized topographic changes where facilities are constructed.

g. **About what percent of the site will be covered with impervious surfaces after project construction (for example, asphalt or buildings)?**

A total of approximately 119.2 acres of land will be used for the construction of the WTP.

Approximately 64 acres will be occupied by the operational WTP and potentially covered with an impervious surface. Approximately 4.2 acres will be used for septic leach fields, which will be allowed to revegetate naturally. The remaining 51 acres will be used temporarily during construction for workforce parking, lay down area, and stockpiling. Small portions of the construction area may be covered with concrete or asphalt to provide material storage and temporary construction offices. These concrete or asphalt areas will remain upon completion of construction.

h. **Proposed measures to reduce or control erosion, or other impacts to the earth, if any:**

- Gravel and dust suppression techniques (for example, watering and the application of degradable soil fixatives) will help control erosion in the construction area.
- Land used only for construction purposes will either remain covered with aggregate or be restored to original condition and revegetated after construction.
- Due to the possibility that the soil will be disturbed again for future work, construction laydown areas will be reseeded using the appropriate standard Washington State Department of Transportation seed mix for revegetation in this climate, consistent with the TWRS Mitigation Action Plan (DOE-RL 1998).

2. Air

a. **What types of emissions to the air would result from the proposal (such as, dust, automobile, odors, and industrial wood smoke) during construction and when the project is completed? If any, generally describe and give approximate quantities, if known.**

Air emissions as a result of construction activities are estimated, in the TWRS-EIS (DOE 1996) Volume 5, Appendix G, to be:

Criteria pollutants	Emissions in grams per
Sulfur oxides	0.19
Nitrogen oxides	8.6
Carbon monoxide	46
Particulate matter (PM-10)	6.8

Hazardous pollutants	Emissions in grams per second
Formaldehyde	3.5×10^{-5}

Air emissions from plant operations, excluding steam boilers, are estimated in the *Integrated Emissions Baseline Report for the River Protection Project Waste Treatment Plan* (BNI 2001). The tables below summarize the information for: criteria pollutants; and total organic pollutants, inorganic pollutants, and radionuclide emissions.

Criteria pollutants	Emissions in grams per second
Sulfur oxides	1.4×10^{-4}
Nitrogen oxides	0.43
Carbon monoxide	0.43
PM-10	1.6×10^{-4}

Pollutant	Emissions
Total organic carbon	0.29 tons per year
Inorganics	0.87 grams per second
Radionuclides	2.71 curies per day

Air emissions from steam boilers are estimated to be:

Criteria pollutants	Emissions in tons per year
SO_x	31.99
NO_x	113.46
CO	27.96
PM-10	9.27
Volatile organic compounds	2.00

These emission estimates will be verified as the design progresses. Emissions from the treatment facility will be regulated under the appropriate permits as presented in section A.10.

b. **Are there any offsite sources of emissions or odors that may affect your proposal? If so, generally describe.**

No.

c. **Proposed measures to reduce or control emissions or other impacts to the air, if any?**

Dust control measures will be applied during construction to reduce fugitive dust emissions. These measures may include watering or application of dust control chemicals, as well as temporary seeding and revegetation. The primary and secondary offgas controls specified for the WTP designs are expected to result in emissions that would be substantially below both federal and state standards in all areas open to the public. Commercially available treatment systems will treat the steam boiler and standby generator emissions to levels compliant with applicable standards.

In addition, good engineering practices will be followed, and actions would comply with procedures designed to protect human health and the environment. Administrative control practices will limit air emissions and protect worker health.

3. Water

a. Surface

1) Is there any surface water body on or in the immediate vicinity of the site (including year-round and seasonal streams, saltwater, lakes, ponds, and wetlands)? If yes, describe type and provide names. If appropriate, state what stream or river it flows into.

There is no surface water body on or in the immediate vicinity of the WTP. Additional information can be found in the TWRS-EIS, Section 4.2.1.

2) Will the project require any work over, in, or adjacent to (within 200 feet) the described waters? If yes, please describe and attach available plans.

No.

3) Estimate the amount of fill and dredge material that would be placed in or removed from surface water or wetlands and indicate the area of the site that would be affected. Indicate the source of fill material.

None. There will be no dredging or filling from, or to, surface water or wetlands.

4) Will the proposal require surface water withdrawals or diversions? Give general description, purpose, and approximate quantities if known.

The water supply for the 200 Areas is pumped from the Columbia River. The WTP will use raw water at approximately 875 US gallons per minute, based on an annual average. The water will primarily be used in cooling towers and will also be used for reagent make-up and plant and equipment wash down.

5) Does the proposal lie within a 100-year floodplain? If so, note location on the site plan.

The WTP is not within the 100-year floodplain.

6) **Does the proposal involve any discharges of waste materials to surface waters? If so, describe the type of waste and anticipated volume of discharge.**

No.

b. Ground

1) **Will ground water be withdrawn, or will water be discharged to ground water? Give general description, purpose, and approximate quantities if known.**

No groundwater will be withdrawn in support of the project, nor will water be discharged directly to the aquifer from the WTP. The project is governed by three Hanford site-wide permits that allow water to be discharged to the ground at the WTP. These discharges will include hydrotesting, maintenance, and construction discharges, cooling water condensate, and stormwater. Liquids may also be transferred to other permitted facilities (for example, the Effluent Treatment Facility and the Treated Effluent Disposal Facility) that will treat effluent prior to its discharge to the ground. The depth to groundwater at the WTP is over 260 feet. Sanitary sewage will be discharged to permitted leach fields.

In addition to the three discharge sources identified above, process water and stormwater will be discharged from the concrete batch plant. These discharges will be during construction of the WTP and are covered by a sand and gravel general permit.

2) **Describe waste material that will be discharged into the ground from septic tanks or other sources, if any (for example: Domestic sewage; industrial, containing the following chemicals... agricultural; and so forth). Describe the general size of the system, the number of such systems, the number of houses to be served (if applicable), or the number of animals or humans the system(s) are expected to serve.**

During construction, approximately 48,000 US gallons per day of sanitary waste will be disposed of in onsite septic leach fields, based on a construction work force of approximately 3200. During operations, approximately 29,000 US gallons per day of sanitary waste will be discharged to septic leach fields from an operational work force of approximately 1110. Anticipated discharges to the ground will be from construction activities, which include:

- stormwater
- dust mitigation
- concrete work
- tank and pipe hydrotesting
- construction operations

c. **Water Runoff (including storm water)**

1) **Describe the source of runoff (including storm water) and method of collection and disposal, if any (include quantities, if known). Where will this water flow? Will this water flow into other waters? If so, describe.**

The Hanford Site receives an average of six to seven inches of annual precipitation. The primary source of runoff associated with this project will be storm water from the buildings, paved areas, and other impervious surfaces of the plant. The light and infrequent nature of precipitation at the site will produce correspondingly light runoff from the impervious surfaces. The precipitation will not come into contact with any of the mixed waste being stored in the facility. Storm water will be managed in

accordance with an approved permit, as presented in section A.10.

2) **Could waste materials enter ground or surface waters? If so, generally describe.**

Waste materials will not enter ground or surface waters. Waste materials will be primarily contained in buildings with roofs to prevent contact with storm water and ground or surface water. Two tanks containing waste will be located outside of buildings. These tanks will have secondary containment with protective coating to prevent waste from entering ground or surface waters.

d. **Proposed measures to reduce or control surface, ground, and runoff water impacts, if any:**

No surface, ground, or runoff water impacts are expected. A Stormwater Pollution Prevention Plan and an Erosion and Sediment Control Plan are required by the sand and gravel permits. These plans will be written to utilize and incorporate the Best Management Practices Plan for Hanford Site permits

4. Plants

a. **Check or circle the types of vegetation found on the site.**

___ **deciduous tree: alder, maple, aspen, other**
___ **evergreen tree: fir, cedar, pine, other**
X **shrubs**
X **grass**
___ **pasture**
___ **crop or grain**
___ **wet soil plants: cattail, buttercup, bulrush, skunk cabbage, other**
___ **water plants: water lily, eelgrass, milfoil, other**
X **other types of vegetation**

The most common native vegetation community in the vicinity of the WTP is the sagebrush and bunch grass community. Numerous species of sagebrush and a variety of bunch grass species are found on the Hanford Site. Disturbed areas are commonly populated by cheat grass, *Bromus tectorum*.

b. What kind and amount of vegetation will be removed or altered?

Section 4.4 in Volume I of the TWRS EIS (DOE 1996) describes the vegetation in the vicinity of the WTP. Acreage taken by the WTP is inside the portion of the Hanford Site dedicated to long-term waste management under the *Hanford Comprehensive Land-Use Plan Environmental Impact Statement* (DOE 1999a). Substantial portions of the 119.2-acre site have been previously disturbed by clearing, grading, or other activities and are poor-quality habitat. Nevertheless, clearing and grading will remove and alter shrub-steppe vegetation and habitat.

The Supplement Analysis 2 (DOE 1998) states that 37 acres in the area of the proposed site have previously been disturbed. The TWRS EIS (DOE 1996) assumes that 62 percent of the area that would be used for construction and operation for the WTP would disturb previously undisturbed shrub-steppe habitat. Based on the current 119.2 acres requested (64 acres for operations, 4.2 acres for septic leach fields, and 51 acres for construction) and the information in the Supplement Analysis 2 (DOE 1998), it is estimated that 51 acres (119.2 – 37 = 82.2 acres; 0.62 × 82.2 = approximately 51 acres) of previously undisturbed land will be taken.

Plant species likely to be taken would include big sagebrush and gray rabbit brush, dominant species in the Hanford Site shrub-steppe habitat. While not known to exist on the WTP site, potentially affected species of concern that could be present, according to the TWRS EIS Volume I, section 4.4.2 (DOE 1996), include crouching milkvetch, stalk-pod milkvetch, scilla onion, and Piper's daisy.

c. List threatened or endangered species known to be on or near the site.

None. No federally-listed threatened or endangered plant or animal species are known to occur on or near the Central Plateau, where the WTP site is located. Additional information is provided in Volume I of the TWRS EIS, sections 4.4.4 and 4.4.5 (DOE 1996).

The Hanford Site contains some federally and state-listed threatened and endangered plant and animal species. Additional information on species can be found in the *Hanford Site National Environmental Policy Act (NEPA) Characterization* (PNNL 2000).

d. Proposed landscaping, use of native plants, or other measures to preserve or enhance vegetation on the site, if any:

DOE has committed to compensate for biological and natural resource disturbance caused by construction activities of the WTP at an appropriate site to be determined by the DOE. Furthermore, due to the possibility that the soil at the site will be disturbed again for future work, construction laydown areas and other portions of the site will be reseeded, using the appropriate standard Washington State Department of Transportation seed mix for revegetation in this climate. Additional information is provided in Volume I of the TWRS EIS, section 5.20 (DOE 1996), and the TWRS Mitigation Action Plan (DOE-RL 1998).

5. Animals

a. Indicate (by underlining) any birds and animals which have been observed on or near the site or are known to be on or near the site.

The following (as indicated by underlining) have been observed on or near the site or are known to be on or near the site:

birds:	**hawk**, heron, eagle, **songbirds**, **other**
mammals:	**deer**, bear, elk, beaver, **other**
fish:	bass, salmon, trout, herring, shellfish, other

Raptors (for example, burrowing owls, ferruginous, red-tail, and Swainson's hawks) are seen occasionally in the 200 East Area. Small passerines (for example, sparrows, finches) also are present in the general vicinity of the WTP. Two Washington State candidate bird species were observed in the vicinity during the performance of a biological review of the proposed location of the WTP: the loggerhead shrike (*Lanius ludovicianus*) and the sage sparrow (*Amphispiza belli*) (PNNL 1999). Mule deer, rabbits, badgers, and coyotes occasionally are seen in the general area. Additional

information is provided in Volume I of the TWRS EIS, sections 4.4.3, and 4.4.5 (DOE 1996).

b. **List any threatened or endangered species known to be on or near the site.**

Two federally and state-listed threatened or endangered species have been identified on the 560 square mile Hanford Site along the Columbia River: the bald eagle and the peregrine falcon. In addition, the state-listed white pelican, sandhill crane, and ferruginous hawk also occur on or migrate through the Hanford Site. Of these 5 species, only the ferruginous hawks have been seen on occasion in the general area. These hawks have not been observed to use the habitat in the vicinity of the WTP for perching, hunting, or nesting. The sage sparrow (*Amphispiza belli*) and the loggerhead shrike (*Lanius ludovicianus*), two Washington State Candidate bird species, were observed in the vicinity of the proposed location of the WTP.

Additional information is provided in Volume I of the TWRS EIS, section 4.4.5 (DOE 1996).

c. **Is the site part of a migration route? If so, explain.**

The Hanford Site is a part of the broad Pacific Flyway.

d. **Proposed measures to preserve or enhance wildlife, if any:**

Specific measures to preserve or enhance wildlife are discussed in section 5.20 of Volume I of the TWRS EIS (DOE 1996) and the TWRS Mitigation Action Plan (DOE-RL 1998).

6. Energy and Natural Resources

a. **What kinds of energy (electric, natural gas, oil, wood stove, solar) will be used to meet the completed project's energy needs? Describe whether it will be used for heating, manufacturing, and so forth.**

Energy needs for the WTP are presented in the TWRS-EIS, Volume I, Table 5.16.1. Electrical and oil energy will be used for heating and to support operation of the treatment facility.

b. **Would your project affect the potential use of solar energy by adjacent properties? If so, generally describe.**

No.

c. **What kinds of energy conservation features are included in the plans of this proposal? List other proposed measures to reduce or control energy impacts, if any:**

A pollution prevention plan that includes elements of sustainable design, and pollution prevention opportunity assessments, will be implemented to identify methods to reduce energy use and minimize waste. Systems will be operated to use energy and resources in the most efficient manner possible.

7. Environmental Health

a. **Are there any environmental health hazards, including exposure to toxic chemicals, risk of fire and explosion, spill, or hazardous waste, that could occur as a result of this proposal? If so, describe.**

Possible environmental health hazards to workers could arise from activities at the WTP. The hazard could come from exposure to radioactive, dangerous, or mixed waste. Engineered barriers and administrative controls are used to minimize the probability of even a minor incident or accident. A chemical spill, release, fire, or explosion could occur only as a result of a simultaneous breakdown in multiple barriers or a catastrophic natural event.

1) **Describe special emergency services that might be required.**

Special emergency services might be required for circumstances involving mixed waste incidents, such as spills, releases, fires, and explosions.

2) **Proposed measures to reduce or control environmental health hazards, if any:**

All personnel will be trained to follow proper procedures during the WTP treatment and storage operations to minimize potential

exposure. The WTP will have systems for air emission controls, radiation monitoring, fire protection, and alarm capability. The ventilation system will maintain a negative air pressure in operations buildings.

The WTP will have measures in place to reduce or control environmental health hazards. These measures will include containment structures and equipment, protective equipment and clothing, and operating procedures to ensure that hazards are minimized. The physical security of a chain-link fence around the WTP and limited access to authorized personnel will further reduce potential exposures.

b. Noise

1) What type of noise exists in the area which may affect your project (for example: traffic, equipment, operation, other)?

The site is characterized by background noise from traffic and activities taking place in the 200 East Area. The project is not noise-sensitive.

2) What types and levels of noise would be created by or associated with the project on a short-term or a long-term basis (for example: traffic, construction, operations, other)? Indicate what hours noise would come from the site.

During construction, noise will largely be generated by mechanized equipment such as loaders, bulldozers, cranes, and trucks. Noise levels from all mechanized equipment used during construction activities will be within the General Services Administration construction noise specifications or other similar noise standards (29 CFR 1910.95). Noise from construction activities will primarily be during daylight hours.

Because the waste treatment process equipment will be operating inside enclosed structures, exterior noise levels will not be substantially increased due to the WTP.

Minor amounts of noise from traffic and equipment are expected during day-shift hours during operations. For additional information, refer to the TWRS EIS (DOE 1996).

3) **Proposed measures to reduce or control noise impacts, if any:**

If Occupational Safety and Health Administration noise standards are exceeded, appropriate measures to protect workers will be employed.

8. Land and Shoreline Use

a. **What is the current use of the site and adjacent properties?**

The site consists of disturbed and undisturbed sagebrush. The subject site is adjacent to the 241-AP Tank Farm and generally flat, with a spoils pile near the center. The spoils pile is soil from the construction of the adjacent grout vaults.

b. **Has the site been used for agriculture? If so, describe.**

No portion of the 200 Areas has been used for agricultural purposes since 1943, if ever.

c. **Describe any structures on the site.**

As of September 2001, power distribution facilities, a visitor trailer, and a construction trailer have been located at the WTP site.

d. **Will any structures be demolished? If so, what?**

No structures are to be demolished.

e. **What is the current zoning classification of the site?**

The Hanford Site is zoned as an Unclassified Use District by Benton County, Washington.

f. **What is the current comprehensive plan designation of the site?**

The *Record of Decision: Hanford Comprehensive Land-Use Plan Environmental Impact Statement* (DOE 1999b) designated the 200 Areas as "Industrial Exclusive", dedicated to nuclear waste management activities.

g. If applicable, what is the current shoreline master program designation of the site?

Does not apply.

h. Has any part of the site been classified as an "environmentally sensitive" area? If so, specify.

No part of the WTP site has been classified as an "environmentally sensitive" area. The 200 Areas, in particular, is located in a previously disturbed industrial area of little or no environmental significance. There will be an environmental impact to the shrub steppe habitat from construction activities. The State of Washington Department of Fish and Wildlife has designated the shrub steppe as a "priority habitat" (PNNL 2000). Mitigation has been performed in accordance with the TWRS Mitigation Action Plan (DOE-RL 1998) developed by DOE in accordance with department policy. Additional information is provided in Volume I of the TWRS EIS, section 4.0 (DOE 1996).

i. Approximately how many people would reside or work in the completed project?

Employment during peak construction will be approximately 2,700 full-time equivalents onsite. About 500 additional personnel (for example, engineers, designers, managers, and support personnel) will be located in office facilities in the Tri-Cities area. Approximately 1110 onsite workers are expected during operations.

j. Approximately how many people would the completed project displace?

None. Refer to Volume I of the TWRS EIS, section 5.6.1 (DOE 1996), for additional information.

k. Proposed measures to avoid or reduce displacement impacts, if any:

Does not apply.

l. **Proposed measures to ensure the proposal is compatible with existing and project land uses and plans, if any:**

Does not apply.

9. Housing

a. **Approximately how many units would be provided, if any? Indicate whether high, middle, or low-income housing.**

None. Refer to Volume I of the TWRS EIS, section 5.6.2 (DOE 1996), for additional information.

b. **Approximately how many units, if any, would be eliminated? Indicate whether high, middle, or low-income housing.**

None.

c. **Proposed measures to reduce or control housing impacts, if any:**

None.

10. Aesthetics

a. **What is the tallest height of any proposed structure(s), not including antennas; what is the principal exterior building material(s) proposed?**

The tallest building of the WTP will be approximately 140 feet above grade, and the tallest stack will be approximately 200 feet. The principal exterior building material will be sheet metal.

b. **What views in the immediate vicinity would be altered or obstructed?**

None.

c. **Proposed measures to reduce or control aesthetic impacts, if any:**

None. Refer to Volume I of the TWRS EIS, section 5.20 (DOE 1996), for additional information.

11. Light and Glare

a. What type of light or glare will the proposal produce? What time of day would it mainly occur?

Lighting will be provided for the proposed site during construction and operations during the day and night.

b. Could light or glare from the finished project be a safety hazard or interfere with views?

No.

c. What existing offsite sources of light or glare may affect your proposal?

None.

d. Proposed measures to reduce or control light and glare impacts, if any:

None.

12. Recreation

a. What designated and informal recreational opportunities are in the immediate vicinity?

None.

b. Would the proposed project displace any existing recreational uses? If so, describe.

No.

c. Proposed measures to reduce or control impacts on recreation, including recreation opportunities to be provided by the project or applicant, if any?

None.

13. Historic and Cultural Preservation

a. Are there any places or objects listed on, or proposed for, national, state, or local preservation registers known to be on or next to the site? Is so, generally describe.

Portions of the Hanford Site were included in land designated as the Hanford Reach National Monument in June 2000. Land on or adjacent to the WTP is not included in this designation. Refer to Volume I of the TWRS EIS, section 5.5 (DOE 1996), and the *Hanford Site National Environmental Policy Act (NEPA) Characterization* (PNNL 2000) for additional information.

b. **Generally describe any landmarks or evidence of historic, archaeological, scientific, or cultural importance known to be on or next to the site.**

There are no known landmarks or evidence of historic, archaeological, scientific, or cultural importance at the WTP site (PNNL 1998) and (PNNL 2000).

c. **Proposed measures to reduce or control impacts, if any:**

Does not apply.

14. Transportation

a. **Identify public streets and highways serving the site, and describe proposed access to the existing street system. Show onsite plans, if any.**

Access to the WTP site is via DOE-provided highways and roads. There will be no public access to the WTP. A small-scale map is provided in Chapter 2 of the WTP Dangerous Waste Permit Application (BNFL 2000), depicting the Hanford Site and the location of the WTP. The map also identifies public streets and highways that connect to the DOE-owned Hanford Site roads.

b. **Is the site currently served by public transit? If not, what is the approximate distance to the nearest transit stop?**

The WTP will not be accessible to the public and will not be served by public transit. The nearest public transit stop is approximately 20 miles from the WTP.

c. **How many parking spaces would the completed project have? How many would the project eliminate?**

The WTP will provide 320 parking spaces. Because the proposed site is currently undeveloped, no parking will be eliminated as a result of this project.

d. **Will the proposal require any new roads or streets, or improvements to existing roads or streets, not including driveways? If so, generally describe (indicate whether public or private).**

Yes. An access road will be constructed from Canton Avenue to the WTP site. The road will be accessible only to authorized personnel.

e. **Will the project use (or occur in the immediate vicinity of) water, rail, or air transportation? If so, generally describe.**

No.

f. **How many vehicular trips per day would be generated by the completed project? If known, indicate when peak volumes would occur.**

The Supplement Analysis 2 (DOE 1998), section 4.11, states that traffic impacts associated with the construction and operation of the WTP would be similar to those analyzed in the TWRS-EIS, Volume 1, section 5.10 (DOE 1996). The morning peak hour traffic volume would be approximately 5600 vehicles. Refer to the Supplement Analysis 2 and the TWRS-EIS for additional information.

g. **Proposed measures to reduce or control transportation impacts, if any:**

Volume I of the TWRS EIS, section 5.20.2 (DOE 1996), discusses widening Route 4 west of the Wye Barricade, or reducing the speed limits on Route 4 as potential mitigation measures that may be deemed necessary.

15. Public Services

a. **Would the project result in an increased need for public services (for example: fire protection, police protection, health care, schools, other)? If so, generally describe.**

The increased population resulting from the construction and operation of the WTP is expected to place additional demands on public facilities and

services. Refer to the Volume I of the TWRS EIS, section 5.6.3 (DOE 1996), for additional information.

b. **Proposed measures to reduce or control direct impacts on public services, if any:**

Volume 1 of the TWRS-EIS, section 5.20 (DOE 1996), does not identify any mitigation measures to reduce or control the impacts of the WTP on public services.

16. Utilities

a. **Circle utilities currently available at the site: electricity, natural gas, water, refuse service, telephone, sanitary sewer, septic system, other:**

There are no utilities currently available on the WTP site.

b. **Describe the utilities that are proposed for the project, the utility providing the service, and the general construction activities on the site or in the immediate vicinity which might be needed.**

The water is provided to the facility from extensions of the 200 Areas potable and raw water systems. The water system extensions proceed east to the WTP from existing pipelines in the vicinity of Canton Street in the 200 East Area.

Electricity is provided to the WTP from a new substation built to support the WTP. The substation has a capacity of 62.5 megawatts.

Oil storage may be added as part of the project.

References

10 CFR 72.3. *Licensing Requirements for the Independent Storage of Spent Nuclear Fuel and High-Level Radioactive Waste*, as amended. Code of Federal Regulations.

29 CFR 1910.95. *Occupational Noise Exposure*, as amended. Code of Federal Regulations.

40 CFR 52.21. *Prevention of Significant Deterioration of Air Quality*, as amended. Code of Federal Regulations.

40 CFR 61. *National Emission Standards for Hazardous Air Pollutants*, as amended. Code of Federal Regulations.

40 CFR 270. *EPA Administered Permit Programs: The Hazardous Waste Permit Program*, as amended. Code of Federal Regulations.

BNFL. 2000. *River Protection Project – Waste Treatment Plant Dangerous Waste Permit Application*, BNFL-5193-RCRA-01, Revision 2. 28 April 2000. BNFL Inc., Richland, Washington, USA.

BNI. 2001. *Integrated Emissions Baseline Report for the River Protection Project Waste Treatment Plant*, RPT-W375-ES00001, Revision 1. May 2001. Bechtel National Inc., Richland, Washington, USA.

DOE. 1996. *Tank Waste Remediation System, Hanford Site, Richland, Washington, Final Environmental Impact Statement*, DOE/EIS-0189, August 1996. US Department of Energy, Washington, DC, USA.

DOE. 1997. *Tank Waste Remediation System (TWRS) Record of Decision (ROD)*, Federal Register Volume 62 pp. 8693-8704. 62 FR 8693, February 27, 1997.

DOE. 1998. *Supplement Analysis for the Tank Waste Remediation System*, DOE/EIS-0189-SA2, May 1998. US Department of Energy, Washington, DC, USA.

DOE. 1999a. *Hanford Comprehensive Land-Use Plan Environmental Impact Statement*. DOE/EIS-0222-F, September 1999. US Department of Energy, Washington, DC, USA.

DOE. 1999b. *Record of Decision: Hanford Comprehensive Land-Use Plan Environmental Impact Statement*. Federal Register, Vol. 64, No. 218. 12 November 1999.

DOE-RL. 1998. *Mitigation Action Plan for the US Department of Energy, Hanford Site, Tank Waste Remediation System-Privatization, Phase I Facility Construction*, May 1998. US Department of Energy, Richland Operations Office, Richland, Washington, USA.

NEPA. 1969. *National Environmental Policy Act of 1969*. 42 United States Code 4321 et seq.

PNNL. 1998. Letter from Hale LL, PNNL to Kjarmo K, FDH, *Cultural Resources Review of the TWRS Mitigation Planning Support-Phase One Project, HCRC #98-0200-022*, May 22, 1998. Pacific Northwest National Laboratory, Richland, Washington, USA.

PNNL. 2000. *Hanford Site National Environmental Policy Act (NEPA) Characterization*, PNL-6415, Revision 12. September 2000. Pacific Northwest National Laboratory, Richland, Washington, USA.

RCW. 43.21. *State Environmental Policy Act of 1971*, Chapter 43.21C. Revised Code of Washington.

WAC 173-200. *Water Quality Standards for Ground Waters of the State of Washington*, as amended. Washington Administrative Code.

WAC 173-216. *State Waste Discharge Permit Program*, as amended. Washington Administrative Code.

WAC 173-303. *Dangerous Waste Regulations*, as amended. Washington Administrative Code.

WAC 173-400. *General Regulation for Air Pollution Sources*, as amended. Washington Administrative Code.

WAC 173-401. *Operating Permit Regulation*, as amended. Washington Administrative Code.

WAC 173-460. *Controls for New Sources of Toxic Air Pollutants*, as amended. Washington Administrative Code.

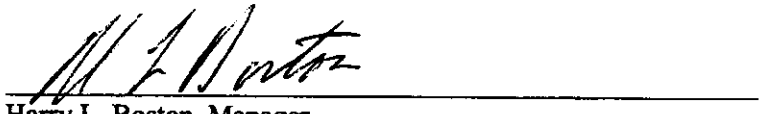
WAC 173-480. *Ambient Air Quality Standards and Emission Limits for Radionuclides*, as amended. Washington Administrative Code.

WAC 246-247. *Radiation Protection – Air Emissions*, as amended. Washington Administrative Code.

WAC 246-272. *On-Site Sewage Systems*, as amended. Washington Administrative Code.

SIGNATURES

The above answers are true and complete to the best of my knowledge.



Harry L. Boston, Manager
US Department of Energy
Office of River Protection

11/28/01
Date